STRATEGY RESEARCH PROJECT

FORCE XXI: THE NEED FOR A TRAINED AND AVAILABLE FORCE

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ABSTRACT

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The U.S. Army is embarking on a new and challenging course as it transitions into the 21st century utilizing information technology and digitization as the catalyst for change. With the emergence of Force XXI experimentation, the Army is faced with the enormous task of utilizing the talents and expertise of personnel who possess the experience and ability to man and fight these evolutionary "systems of systems". New personnel procedures will be required to identify, track, and utilize soldiers, as they become proficient on various Army Battle Command Systems.

This paper examines the implications that may occur if the Army neglects to properly utilize the expertise of digitally trained solders. The paper explores the requirement to create a digital Military Occupation Specialty (MOS), and digital Additional Skill Identifiers (ASIs). Finally, a suggested personnel assignment methodology is introduced that provides both digital utilization and soldier professional development.

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INTRODUCTION

> "... smart weapons requires smart troops. Poorly educated troops can fight bravely in the hand-to-hand combat that typifies First Wave warfare; they can fight and win Second Wave wars; but they are just as much a drag on Third Wave armies as ignorant workers are on Third Wave industries. The new military needs soldiers who can use their brains, can deal with a diversity of people and cultures, who can tolerate ambiguity, take initiative, and ask questions..."
>
> - Alvin and Heidi Toffler[1]

"Force XXI, begun in 1992, is the Army's comprehensive approach to modernizing and preparing for challenges of the 21st century. Enhancing our current equipment set with advanced technology and providing soldiers dominant battlefield awareness will produce Army XXI, a full spectrum force capable of fulfilling America's security needs well into the next century."[2] The Army has chosen as its direction into the 21st century a process of change called Force XXI. The path to change has been challenging, but to date successful. Since 1994, significant Army Warfighting Experiments (AWEs) have been conducted to test the effectiveness and capabilities of digitized systems on the battlefield. At Ft Hood, Texas, the Army is scheduled to field the First Digitized Division (FDD), followed by the implementation of the First Digitized Corps (FDC) in FY 2003. Additionally, plans are being developed for a digitized contingency force and joint strike force. Manning these types of unique organizations requires well trained soldiers and

leaders that are educated in the complex areas of information system technology and practical application. Digital training of soldiers, along with the associated resources expended to build a robust core of digitally qualified soldiers, is an enormous task, and continues to be the number one priority as the Army heads into the 21st century. However, without a process to maximize the utilization of soldiers who are trained and certified on the myriad of digitized systems, the rewards of Force XXI may never be completely achieved. Ultimately, the Army must train and maintain a force capable of decisive victory on any battlefield - today and in the future.

In February 1995, the Army Chief of Staff designated the 2d Armor Division (since redesignated as the 4th Infantry Division) as the major test unit for Force XXI experimentation.[3] In July 1995, the 4th Infantry Division, 1st Brigade Combat team (1BCT) began preparations for the first major Force XXI Task Force AWE rotation at the National Training Center (NTC) in March of 1997. During the summer of 1995 to the spring of 1997, 1BCT conducted continuous digitized systems fielding and intense soldier training. At the culmination of a very successful NTC rotation, over 2,500 soldiers had gone through rigorous individual and collective training on a variety of digitized systems, and validated their skills at the NTC.

During the following year over 90% of the soldiers who received this dynamic and revolutionary training in digitized warfare departed the 1BCT and Ft Hood, with the vast majority moving on to subsequent assignments. Has the Army taken full advantage of the unique skills these soldiers possess in digitized operations, and placed them in positions where they can train future generations of soldiers in digitized operations? Is there a system in place to identify and track these soldiers for future assignments, either at Ft Hood, or at other installations undergoing Force XXI experimentation? The answer is a profound NO.

This research project examines the necessity to establish an embedded system to train and utilize qualified soldiers with digitized skills. "The Army will have to make wise use of all of its resources to meet the challenges of the future. Meeting these challenges will take a long-term, sustained commitment to excellence - to develop leaders, soldiers, equipment, and organizations capable of performing the diverse missions of the future."[4] My approach will be to outline the types of Army Battle Command Systems (ABCS) components that are being fielded at Ft Hood, and other Department of Defense (DOD) installations. I will examine the training that soldiers undergo to become proficient on each these systems. Finally, I will emphasize the

importance of using an institutionally trained digitized force, by maximizing the utilization of qualified soldiers.

FORCE XXI ABCS DIGITIZED SYSTEMS

The Army's vision of future battle command is reflected in the Army Battle Command System (ABCS) concept. This system capitalizes on the power of our quality soldiers, enabled by what we now call Information-Age technology. "Future battle command starts with competent commanders, noncommissioned officers, and soldiers who have developed an intuitive sense of battle gained from study and experience."[5] To gain a true appreciation for the requirement to capture and utilize the experience of soldiers already trained on ABCS platforms, one must fully understand the linkage each system brings to the integrated digitized battlefield.

ABCS is the Army's integrated information architecture of fielded and developmental battlefield automated systems and communications, extending from the joint/strategic level through the operational and tactical systems to the platform/section. ABCS is an integrated, ground mobile, and fixed deployable network of common hardware and software for echelons at corps and below. The purpose of ABCS is to assist commanders and their staffs to obtain near real-time access to command critical

information requirements through a force level database. ABCS provides strategic operational and tactical command and control for service, joint, or combined contingency operations across a spectrum of conflict. ABCS includes the Global Command and Control System-Army (GCCS-A), the Maneuver Control System (MCS), the All Source Analysis System (ASAS), the Advanced Field Artillery Target Data System (AFATDS), the Air Missile Defense Planning and Control System (AMDPCS), the Combat Service Support Control System (CSSCS), and the Force XXI Battle Command Brigade and Below (FBCB2) System.

TRAINING

Chapter 4 of TRADOC PAM 525-5 outlines the changes and direction the Army must take to adequately train the leaders of the 21st century. "Major changes will occur in how Force XXI is able to train. This will lead to the merging of individual, unit and self-development parts into the seamless Army training system."[6] The predominance of training on each of the ABCS platforms is conducted at Ft Hood, Texas. Training is conducted at different echelons, from company to corps level. In 1995, the Central Training Support Facility (CTSF) was activated at Ft Hood to serve as a focal point for digitized training and system fielding. Instructors providing the training at the CTSF include civilian contractors and military personnel.

Currently, there is limited or no institutional ABCS training conducted at the different TRADOC schools. The United States Army Intelligence Center and School at Ft Huchucha Arizona, and the United States Army Signal Center, at Ft Gordon, Georgia do conduct various levels of digitized training. Additionally, ABCS training has been included in the curriculum at the United States Army Command and Staff College at Ft Leavenworth, Kansas, and is being considered for inclusion in the Battle Staff Course program of instruction (POI) at the United States Army Sergeant Major Academy at Ft Bliss, Texas. However, there still remains a considerable void in officer and NCO training throughout the Army.

There ***is*** a plan, but the fundamental question is ***when*** will it be implemented, and once instituted will it ***be too late*** to influence the success of the FDD and FDC? The DRAFT ABCS CAPSTONE System Training Plan (STRAP) outlines a number of training strategies that when implemented, will fill the training void experienced today by units conducting ABCS experimentation. However, the entire paradigm is predicated on some very fragile assumptions. An example of just a few are:

a. Funding for the development of ABCS training products will occur during the life cycle of the program.

b. Funding will be available to develop an integrated ABCS embedded training package or a suitable low overhead

constructive simulation system that will facilitate ABCS collective training.

c. The manpower necessary to operate, maintain, support and train ABCS is projected to be within the Army's current and projected force structure.

d. Funding will be available for the Signal Center and School to develop and operate an ABCS Master System Operator Course

e. Although there is no requirement to create a new Military Occupational Specialty (MOS) to operate or maintain the family of ABCS equipment, the need exists to create a new Additional Skill Identifier (ASI). This ASI will be awarded after successful completion of the ABCS Master Operator Course (ABCS MOC). The ABCS community will establish minimum training requirements required for the award of this ASI.

A major initiative outlined in the ABCS STRAP is the introduction of an ABCS Master System Operator (MSO) skill identifier. Much like a combat unit's master gunner, each command post at battalion through corps will require an ABCS Master System Operator. The prospective ABCS MSO will be selected based on experience and demonstrated proficiency with ABCS systems. The MSO will serve as the commander's advisor on the configuration and employment of ABCS in the command post,

and will manage the unit's digital training program. The MSO will maintain the unit's digital training program, to include the battle roster and digitized certification program. To enforce the utilization of MSO qualified soldiers the Army personnel system will have to designate a new Additional Skill Identifier (ASI) to track ABCS MSO trained individuals. Selected unit TOEs positions within the Digitized Divisions structure will have to be modified to reflect this ASI. Upon successful completion of the MSO course, the ASI will be awarded, allowing the Army personnel system to track individuals for assignment purposes. The ABCS STRAP recommends that the Signal Center and School develop and administer the specific course design, pre-requisites, length, and graduation requirements, etc. The institution of such a course and skill identifier is definitely a step in the right direction.

As the Army adapts to a changing environment requiring revolutionary demands in training, it must simultaneously promote a process that captures the talents and skills of soldiers trained and certified in ABCS technology and ensure institutional utilization is rigidly enforced.

UTILIZATION

Manning Army XXI presents difficult challenges as the Army is forced to compete even more intensely with the private sector, higher education and other military services for morally, mentally and physically qualified young men and women as it vests enhanced capability in fewer personnel.

The Armed Forces need "leaders who have a deep understanding of warfare in the context of the information age."[7] The art and skill of making quick, and accurate decisions while having to process enormous amounts of information will be essential for the battle commander of the 21st century. "Such information knowledgeable leaders must have had the opportunity to internalize the significant capabilities and vulnerabilities associated with the current and future role of information (from both the technological and human perspectives)."[8] It is essential that once soldiers are trained to make quick and accurate decisions using information provided through ABCS, that this unique expertise is captured and passed on to future generations of leaders. Today, a rudimentary process is in place, but at best, it serves as a piece-meal approach to utilizing the talent pool of soldiers trained on digitized systems.

Currently, the personnel community is committed to deal with complex variables associated with fielding the First Digitized

Division (FDD). The personnel support plan, designed following the completion of the Force XXI Task Force AWE in March of 1997, is intended to resolve all manning issues to facilitate the reorganization to a combat capable digitized division by the end of FY 00. Concurrently, a system is being developed to capitalize on the lessons learned during this process, and passes on the process to the remainder of the force as those units both modernize and digitize. This translates to adjusting recruiting, retention, training, promotion targets, and manning strategies to support further growth in new specialties and change in structure, for digitized units in the out-years.

Today, the U.S. Total Army Personnel Command (PERSCOM) tracks soldiers who received digitized /on-the-job training for future assignments in digitization units. PERSCOM makes every attempt to track these soldiers (enlisted and officer) using a Project Development Skill Identifier (PDSI). However, the PDSI is a temporary skill identifier used to identify and track soldiers who have a specific type of knowledge or expertise. To date, approximately 2,000 soldiers, mostly enlisted, have the PDSI. Utilization of these identified soldiers in assignments to other digitized positions is negligible. In the future, if it becomes apparent that digitizing the Total Army is going to be a protracted process, the temporary PDSI will have to convert

to a permanent Additional Skill Identifier (ASI) to sufficiently track and manage soldiers with digitized skills.

Currently, six PDSIs have been established for use in identifying soldiers qualified on the various Army Battle Command Systems.

a. A4D - Combat Service Support Control System (CSSCS).

b. A5D - All Source Analysis System (ASAS).

c. A6D - Maneuver Control System (MCS).

d. A7D - Advanced Field Artillery Tactical Direction System (AFATDS).

e. A8D - Forward Area Air Defense Command and Control (FAADC2I).

f. A9D - Army Tactical Command and Control System Applique (ATCCS applique).

PDSI	TITLE	ENLISTED	OFFICER
A4D	CSSCS	39	18
A5D	ASAS	110	32
A6D	MCS	100	40
A7D	AFATDS	63	31
A8D	FAADC2I	3	1
A9D	ATCCS-Applique	1320	249
	TOTAL	1635	371

Figure 1 (PDSI POPULATION)

The numbers in figure 1 depict the current population awarded the various digitized PDSIs. The numbers reflect a relatively small density when one takes into consideration that

the PDSI identification has been in effect since 1997, and ABCS training has migrated beyond the 4th ID to other III Corps units. Of the soldiers possessing a digitized PDSI, less than 1% have been assigned to any type of unit or position that requires digitized experience.[9]

A STEP BY STEP FORCE XXI UTILIZATION PLAN

To gain a basic understanding of how digitized utilization can be incorporated, a process-oriented methodology is required. This is outlined in a step by step process that serves as the foundation for the assignment process.

Step 1. Following the successful completion of a digitized training program and tour in a digitized unit, a soldier (in this case I will refer to the soldier as SGT Smith) is automatically awarded the appropriate PDSI code. In turn the installation's Personnel Service Company (PSC) forwards the PDSI documentation to PERSCOM, which is then annotated on his personnel record. Following the completion of his tour, SGT Smith is ready for reassignment. Step 2. An installation generating a requirement or requisition for a soldier with a digitized PDSI forwards the request to PERSCOM; the request or requisition must outline the precise criteria desired in order for PERSCOM to make the right choice. This is accomplished by

attaching specific instructions or trailer data to the requisition. Step 3. PERSCOM assignment managers, for both enlisted personnel and officers, who have an institutional knowledge and understanding regarding the specific instructions concerning a requisition, screen personnel files and make the appropriate selection to fill the position. In this case, SGT Smith is selected for his follow-on assignment. Step 4. Once SGT Smith has been identified, it is incumbent on the gaining installation to assign him to a TOE position requiring his PDSI. A simple process has transpired, and a soldier with digitized training and skills has been utilized in a position that will enhance the gaining command's digitized mission. However, this over-simplified process runs parallel to the many competing Army priorities for the same type of soldier.

THE CHALLENGES TO EXECUTE FORCE XXI UTILIZATION

One of the basic fundamentals for soldiers in today's Army is versatility. Leaders must be capable of performing multiple skills in order to be successful. However, with the complexities that digitization brings to the battlefield, it becomes more apparent that it is time to place "digitized" soldiers in a single-track mode. TRADOC PAM 525-5 points out that "Training and leader development will focus on preparing junior officer and noncommissioned officer leaders for vastly

increased responsibility at a much lower rank and earlier in their careers than is the case today."[10] Today, officers and noncommissioned officers are assigned against a set of Army priorities. Drill Sergeant, AC/RC, recruiting, and Combat Training Center requirements all compete for the quality noncommissioned officer. Company Grade officers are funneled off to AC/RC assignments, Recruiting Command, and other nominative assignments. Field Grade officers are assigned to joint headquarters, Department of the Army Staff positions, and other "away from troops" positions. All of these priorities are important, and without doubt must be filled with the right individual to ensure adequate career progression. There is a way to fill the Army priority positions and still maximize the skills and talents of soldiers with digitized training.

ROTATION POLICY

To best depict a viable rotation methodology, let's explore three different types of assignment scenarios.

Scenario #1. Ft Hood, to OCONUS, back to Ft Hood.

OCONUS assignments to Korea and Germany serve as the most likely approach for this scenario. Upon completion of an assignment at Ft Hood, a soldier with digitized training and PDSI is assigned to either Korea or Germany. If a soldier were

moved to Korea for a one-year tour, he would automatically be brought back to Ft Hood during the subsequent year. The same is true for an assignment to Germany, only the soldier would return to Ft Hood in three years. This serves several purposes. One, the soldier continues to be professionally developed, i.e. an Infantry SGT, E-5, Team Leader, departs Ft Hood for Germany. During this time, he attends BNCOC, is promoted to Staff Sergeant, and returns to Ft Hood, prepared to take on position of Squad Leader in an Infantry company with digitized equipment. Second, upon the individual's return to Ft Hood, the training resources (time and money) required to make him proficient on current ABCS platforms is minimized due to his previous training and experience.

Scenario #2. Ft Hood, to another CONUS installation with digitized requirements, back to Ft Hood.

This assignment model serves the purpose of placing knowledgeable and experienced soldiers, with abundant digitized skills, in positions that enhance digitized military training and systems development. Example: An officer or noncommissioned officer with a PDSI is assigned to that individual's proponent school, i.e., an Infantryman to Ft Benning, tanker to Ft Knox, etc., and either instructs digitized doctrine, or works in a digital Battle Lab. Upon completion of his tour, the individual is reassigned to Ft Hood and placed in

a subsequent TOE position requiring digitized qualifications. The positive outcome is that while the soldier is away from Ft Hood, he remains current on new doctrine and updated technology, and is easily transitioned back into a digitized unit once back at Ft Hood.

Scenario #3. Ft Hood, to a joint command, back to an Army digitized unit.

As the use of information technology migrates to other military services, it is critical that soldiers, in this case field grade level officers with a fundamental understanding of digitization, be placed in positions that impact the implementation of "joint" technology. In May of 1996, the Chairman of the Joint Chiefs of Staff published Joint Vision 2010 as a "conceptual template for how America's Armed Forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint warfighting."[11] Joint Vision 2010 clearly outlines the inherent requirement for qualified and trained soldiers. "The skills and vitality of our people will also provide the driving force for shaping change."[12] The document focuses on the importance of joint interoperability and the requirement for a trained and talented group of personnel to man these extremely complex and technical systems. "In 2010 we will meet these responsibilities with high quality people and

leaders, who are trained and ready for joint operations and able to exploit high technology equipment."[13] Officers with digitized expertise would optimally serve in joint billets and selected DA Staff positions that deal with digital integration and system interoperability. Following their completion of a tour of duty on a joint staff or DA Staff, officers would return to an Army assignment aligned with digitization, or other assignments requiring expertise in information technology. The catalyst for this type of officer professional development is OPMS XXI.

INTEGRATION OF DIGITZED SPECIALIZATION INTO OPMS XXI

Department of the Army (DA) PAM 600-3 outlines an evolutionary paradigm for officer development as the Army moves into the 21st century. "OPMS XXI is an evolutionary system that balances the needs of the Army... Modified by external environmental factors, as well as doctrine, the dynamics of force structure and leader development principles, OPMS XXI will serve the Army into the 21st century."[14] The increasing awareness and requirements of specialization in the officer corps is incorporated in the OPMS XXI selection procedures to insure that adequate attention is given to the wide variety of career possibilities within the personnel management system. Additionally, DA PAM 600-3 outlines a requirement for the

introduction of officer specialization. "A skill identifier identifies specific skills that are required to perform the duties of a particular position and are not related to any one branch or functional area. There are over 170 skills in the current Army regulation, many of which require special schooling, training and experience in which qualification is maintained."[15] Of the 170 skills outlined in DA regulation 611-201, none relate to digitization certification or qualification. Even as extensive digitized training and certification is conducted, the Army has yet to recognize this unique and complex capability as a source of professional development. This fact becomes a firewall to digital utilization.

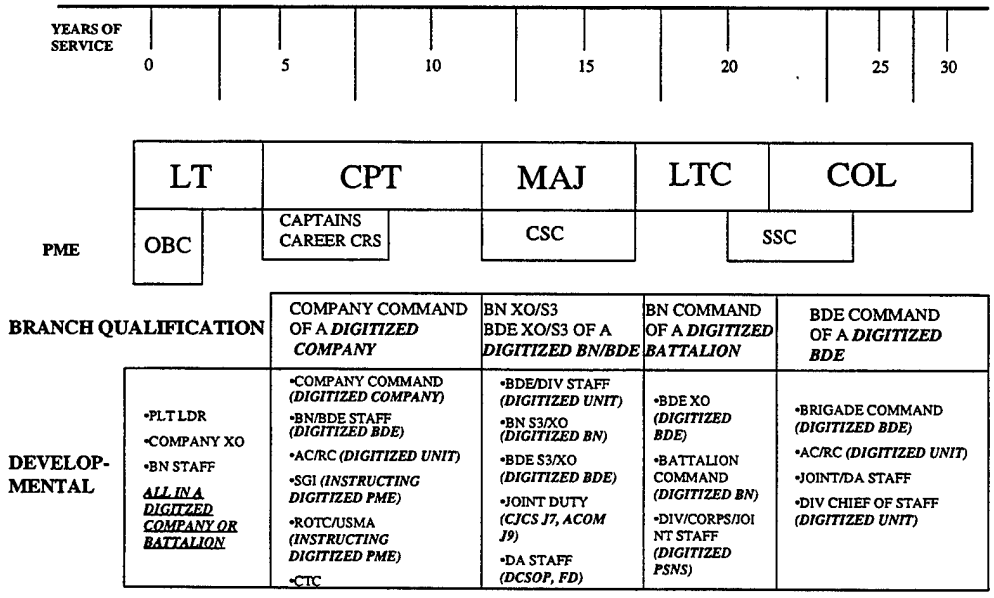

FIG 2 - GENERIC DIGITIZED LIFE CYCLE DEVELOPMENT MODEL

The groundwork for the growth of Army leaders' knowledge, skills, and abilities over a period of time are a function of military education and assignment experience.

Figure 2 is a hypothetical officer, digitized career life cycle developmental model that captures the strength of digitized utilization. The digitized life cycle highlights the advantages of an officer beginning a career in a digitized organization. Over a period of years, an officer develops unique skills and expertise through education and experience that are embedded in his professional development. Additionally, the flexibility exists for an officer to enter the life cycle throughout his career, however; to maximize the strength of digitized education, and experience, the optimum period is during the first 10 years of service. In the end, the officer is fully capable of meeting the challenges of "Battle Command" at any level. This concept of digitized officer career development is reinforced by studies conducted by the Army Research Institute: "…under Force XXI, battle command will be performed within a radically new information environment and within a new organizational structure. Force XXI will change the nature of the battle commander's task, and in order to maximize the commander's battlefield effectiveness, these changes need to be understood."[16]

OPMS XXI offers the flexibility to institute a digital life cycle developmental process. In a report released by the OPMS XXI Task Force in 1997 for the Army Chief of Staff, an important conclusion was brought forth: "Recent experiments involving Force XXI and the Army After Next have demonstrated that the Army must continue to develop leaders with a keen appreciation for and understanding of the historical perspective of war. However, the results also suggest that officers may need to acquire new analytical and cognitive skills for thinking through and solving complex military problems in the future."[17] This statement reinforces the premise that the Army is in need of a system that fully utilizes an officer corps skilled in digitization and information system technology.

CONCLUSION

To summarize the Army's intuitive requirement for a long-term, sustainable, digitized utilization process, several fundamental questions can be asked. What characteristics would best qualify a leader to assume battle command of an Army XXI unit? One with extensive education, training, and experience in Force XXI battlefield technologies, or someone who has little or no experience in the complexities of Army XXI ABCS integration and information management? What professional background

training would best qualify a noncommissioned officer to assume leadership positions in an Army XXI unit, i.e. Platoon Sergeant, First Sergeant, or Command Sergeant Major? A soldier who has been trained on the myriad of digitized information systems and understands the inherent requirements soldiers must have to be successful on a lethal and dynamic digitized battlefield, or one who has little or no understanding of what is expected of soldiers in a very complex environment? Finally, who should be placed on the frontier of information technology system integration and doctrinal development? Qualified soldiers and leaders who have the skills and expertise to drive the military as it pursues its course into the next century, or individuals who are still learning how to harness the power that Army XXI possesses? The answers to these questions may seem overly simplified and easily answered. However, they exemplify the importance of a digitized utilization management system that maximizes the talents of the Army's quality soldiers and leaders.

While Army XXI offers significant challenges, it also offers great opportunities. To be successful, the Army must meet these challenges with flexibility and wisdom. Battle commanders of the future, with strong leader and decision making skills, will be critical to the success of Army XXI. The Army must adapt to this revolutionary environment and enforce the requirements that

come about by it. "… the Army will have to make wise use of *all* its resources to meet the challenges of the future. It must recognize where bold change is necessary and where little or no change is needed. Meeting these challenges will take a long-term sustained commitment to excellence--to develop leaders, soldiers, equipment, and organizations capable of performing the diverse missions of the future."[18]

ENDNOTES

[1] Alvin and Heidi Toffler, War and Anti-War New York: Warner Books, 1993, 85.

[2] Gen Dennis J. Reimer, Chief of Staff, U.S. Army, The U.S. Army: The World's Premier Force, Army Magazine, October 1996, 22.

[3] In December 1995, the 2d Armor Division was deactivated; 4th Infantry Division assumed the missions of 2d Armor and relocated to Ft Hood where it remains today.

[4] U.S. Department of The Army, FORCE XXI OPERATIONS, TRADOC Pamphlet 525-5 (Washington: U.S. Department of the Army, 1 August 1994), 1-5.

[5] Ibid., 3-4.

[6] Ibid., 4-3.

[7] Philip A. La Perla, Creating Information Knowledgeable Leaders Through Information Operations Education (Carlisle Barracks, PA: U.S. Army War College, July 1997), 1.

[8] Ibid.

[9] James Hodges, (Enlisted Personnel Distribution Division, U.S. Army Personnel Command (PERSCOM), Alexandria, VA), Quote.

[10] TRADOC PAM 525-5, 4-10.

[11] John M. Shalikashvili, Joint Vision 2010 (Washington, D.C.: Chairman of the Joint Chiefs of Staff, 1996), 1.

[12] Ibid., 2.

[13] Ibid., 34.

[14] U.S. Department of the Army, Commissioned Officer Development and Career Management, Department of the Army Pamphlet 600-3, (Department of the Army, Washington D.C., 1 October 1998), paragraph 3-3a, 6.

[15] Ibid, paragraph 3-3a,(4b), 6.

[16] Dr. Stanley M. Halpin, Developing Force XXI Battle Commanders, Army Research, Development and Acquisition (RD&A) Magazine, May - June 1995, 7.

[17] U.S. Department of the Army, OPMS XXI: Final Report, Officer Personnel Management System XXI Task Force, (Washington D.C., 9 July 1997), 1-5.

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